



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/737,370	12/15/2000	Kevin C. Davis	554-258 (Davis 1)	2410
26291	7590	02/23/2005		
MOSER, PATTERSON & SHERIDAN L.L.P. 595 SHREWSBURY AVE, STE 100 FIRST FLOOR SHREWSBURY, NJ 07702			EXAMINER CHANG, EDITH M	
			ART UNIT 2637	PAPER NUMBER

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/737,370	Applicant(s) DAVIS, KEVIN C.	
	Examiner Edith M Chang	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments/Remarks

1. Applicant's arguments filed October 04, 2004 have been fully considered but they are not persuasive. The rejection is upheld.

a. Applicant argues that McGinn does not teaches each and every element of the claimed invention, arranged as **cited in the claims**.

Refer to this Office action, McGinn does teaches each and every element of the claimed invention, arranged as cited in the amended claims.

b. Applicant argues that McGinn does not teach, suggest or disclosure a transmission line tap comprising at least two input terminals.

McGinn teaches a circuit for tapping to a transmission line to get the information from the line as shown in Fig.1. The circuit comprises two input terminals 2 and 3 as cited in the claim.

c. Applicant argues that the TIP 2 and RING 3 of McGinn's circuit are not input terminals.

TIP and RING are telephony terms as a way of saying "plus" and minus" or ground and positive in electrical circuits. Here TIP and RING, as IT1 and IT2 shown in Fig.1 of the current application, are two terminals tapped to the transmission line such as the telephone line to get the transmission signal/information propagation from the transmission line.

d. Applicant argues that McGinn does not teach a circuitry configured to provide an

Art Unit: 2637

impedance match to an impedance load of one Line Interface Unit (LIU).

McGinn teaches the amplifiers (21, 25 & 31) with its corresponding elements of the line interface circuit configured to provide an impedance match to the rest of the circuit in Fig.2 (column 5 lines 50-60 wherein the RC values contribute the impedance load matching).

e. Applicant argues that McGinn teaches the line interface circuit terminating a telephone line with a preferred impedance (See McGinn, Abstract), it is contrast to the impedance matching.

Terminating a transmission line with a preferred impedance is the impedance matching .

f. Applicant argues that McGinn does not teach at least two output terminals configured for coupling said transmission signal to the LIU.

McGinn teaches in Fig.2 the two output terminals of block 30; 64 (the output of amplifier 25) and the output of amplifier 31 (SUPERVISION); coupling the transmission signal from the transmission/telephone line to the LIU (the block 50).

g. Applicant argues that the combination/modification with Henderson's teaching lacks motivation.

McGinn uses the operational amplifiers (21, 25 & 31) to provide the impedance match in a voice range band, and it is well known that the operational amplifier with capacitance feedback controlling the frequency response of the operational amplifier taught by Henderson. The motivation and benefit of having capacitance in the feedback of the operational amplifier is obvious. The combination teaches the limitations recited in the claims.

h. Applicant argues that no motivation exists for having the Koenig's teaching.

Art Unit: 2637

The Koenig teaches or explicitly specifies the LIU supporting the standard of E1 and T1 of the telephone line (column 1 lines 13-21). McGinn's line interface circuit is for the telephone line which accommodates the standards (E1 and T1) of the telephone transmission line. The limitation "the transmission line is a E1/T1 line" of claims 15 and 16 is obvious, not the invention.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-9, 11-14, and 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by McGinn (US 5333192).

Regarding **claims 1, 18 & 20**, McGinn discloses a line interface circuit and its methods in Fig. 1 and Fig.2 (Fig.2 is the detail of one embodiment of Fig.1, Abstract), wherein the circuit comprising two input terminals 2 and 3 coupling/tapping to the telephone/transmission line to get the propagation of the signal from the transmission line; resistors 23 and 27 provide an impedance load as show in the configuration of Fig.2; amplifiers 21, 25 and 31 amplify the signal; the amplifiers and associated elements of the line interface circuit provide an impedance match between the transmission line and the rest of the circuit of the Fig.2 (column 5 lines 50-60); the two output terminals of block 30 (64/output of 25 and SUPERVISION/output of 31 to

Art Unit: 2637

the block 50) coupling the signal from terminals 2 and 3 to the rest circuit of the Fig.2 (block 50, the Line Interface Unite).

Regarding **claim 2**, in Fig.2, McGinn discloses the resisters 23 & 27 to provide the impedance load to the transmission line, the amplifiers, and the amplifiers with the associated elements configured to provide the impedance match to the rest circuit of Fig.2 are provided within a single stage (Fig.2, they are provided with in a single stage).

Regarding **claim 3**, McGinn discloses the circuitry configured to provide the impedance load to the transmission line includes at least two resistors where a first of the at least two resistor is connected to a first of the at least two input terminals (23 connected to the terminal 2 Fig.2) and a second of the at least two resistors is connected to a second of the least two input terminals (27 connected to the terminal 3 Fig.2).

Regarding **claim 4**, McGinn discloses a circuitry configured to block direct current present in the received transmission signal (capacitors 24&28 Fig.2).

Regarding **claim 5**, McGinn discloses the circuitry configured to block direct current including at least a first capacitor connected to a first of the at least two input terminals (24 connected to terminal 2 Fig.2) and a second capacitor connected to a second of the at least two input terminals (28 connected to terminal 3 Fig.2).

Regarding **claim 6**, McGinn discloses a dissipation load for the received transmission signal (resistors 12, 14a, & 14b/15a, 15b, &13 Fig.2, column 5 lines 17-24).

Regarding **claim 7**, McGinn discloses the circuitry configured to proved a dissipation load for the received transmission signal including at least two resistors connected in series and

Art Unit: 2637

coupled to the at least two input terminals (12, 14a, & 14b connected to the two input terminals 2 & 3 Fig.2).

Regarding **claim 8**, McGinn discloses the circuitry configured to suppress noise in the received transmission signal and to shape the received transmission signal (feedback resistors 22, 26 & 32 Fig.2).

Regarding **claim 9**, in Fig.2, McGinn discloses capacitors 34 and 44 connected in series and coupled to the two outputs (SUPERVISION and 64) via outputs of the amplifiers 25 and 31 to suppress noise and shape the signal.

Regarding **claim 11**, McGinn discloses a dissipation load to the circuitry configured to amplify the received transmission signal (40 Fig.2).

Regarding **claim 12**, McGinn discloses the dissipation load (41&43 Fig.2 are two resistors in series), and is in parallel to the circuitry configured to amplify the received transmission signal and includes at least two resistors connected in series (40 Fig.2 is in parallel to the 21 & 25 Fig.2).

Regarding **claim 13**, McGinn discloses a circuitry configured to block direct current (capacitors 34&44 Fig.2) from the circuitry configured to amplify the received transmission signal.

Regarding **claim 14**, McGinn discloses the circuitry configured to block direct current including at least two capacitors connected in series and coupled to the two output terminals (Fig.2 34&44 are two capacitors connected in series, 34 coupled to TIP/2 terminal and 44 coupled to RING/3 terminal).

Regarding **claim 17**, McGinn discloses gain adjustment circuitry configured to adjust the gain of the circuit (21/25 Fig.2, column 4 lines 59-65, the circuitry 21->22->29->25->26 is the gain adjustment circuitry).

Regarding **claim 19**, McGinn discloses the steps of blocking direct current present in the received transmission signal (24&28 Fig.2); providing a dissipation load for the received transmission signal (resistors 12, 14a, & 14b/15a, 15b, & 13 Fig.2, column 5 lines 17-24); and suppressing noise in the received transmission signal (feed back resistors 22 & 26 of the amplifiers of Fig.2 suppresses the noise).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGinn (US 5333192) in view of Henderson et al. (US 4868516).

Regarding **claim 10**, McGinn discloses two amplifiers each having respective feedback resistor, however does not specify the capacitors. Further Henderson et al. teaches the amplifier having capacitor parallel to the feedback resistor (C_f & R_f FIG.1/ 214 & 216 FIG.2). As the McGinn's circuit using the operational amplifier with the parasitic capacitance coupled to the inputs of the operational amplifier in a voice range, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the capacitor in parallel to the

Art Unit: 2637

feedback resistor taught by Henderson et al. in McGinn's amplifier to control the frequency response of the amplifier (column 1 lines 15-29, lines 35-44).

6. Claim 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGinn (US 5333192) in view of Koenig et al. (US 5881148).

Regarding **claims 15 & 16**, McGinn does not explicitly specify the T1 and E1 of the telephone line, however Koenig et al. teaches the T1 (E1 is the equivalent European standard). As the McGinn's circuit used in telephone line, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the circuit to the T1/E1 transmission line to provide a complete T1/E1 channel bank process to solve line interface problem efficiently (Abstract).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2637


however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang
February 17, 2005


YOUNG T. TSE
PRIMARY EXAMINER